SUSTAINABLE ANIMAL PRODUCTION (VEN/5/021) D3 New

MODEL PROJECT

CORE FINANCING

YEAR	Experts		Group Activity	Equipment	Fellowships		Scientific Visits		Group Training	Sub-Contracts	Misc. Comp.	TOTAL
	m/d	US $	US $	US $	m/d	US $	m/d	US $	US $	US $	US $	US $
1999	1/15	22,050	0	37,150	6/0	20,700	0/21	7,560	0	4,000	0	91,460
2000	2/22	42,230	0	47,550	9/0	32,400	0/0	0	0	0	0	122,180
2001	1/7	19,980	0	18,500	0/0	0	0/0	0	0	0	0	38,480

First Year Approved: 1999

OBJECTIVES: To improve, in a sustainable manner, the productivity of the ruminant production systems in the central plains of Venezuela through research and technology transfer. More particularly, to evaluate the utilization of local resources for potential ruminant feed, and improve their use through feed supplementation strategies; to improve livestock productive and reproductive performance and health through management and feeding practices; to evaluate the economic impact of the technical interventions; to establish pilot farms and demonstration field areas; to implement training courses, workshops and field days to train producers in the use of validated technology for the improvement of farm profitability; and to investigate the existing social and productive organization, and the sanitary conditions in human and animal production.

BACKGROUND: This project is a new phase of VEN/5/020, in which four Venezuelan institutions have been participating: the Experimental University Rómulo Gallegos (UNERG), Simón Rodríguez University (USR), the Central University of Venezuela (UCV) and the National Fund for Agricultural and Livestock Research (FONAIAP). The main component of the project has been applied research to improve dual-purpose cattle productivity and the life quality of farmers in the central plains of Venezuela. A large number of trials have been implemented in different regions of the plains, especially in the use of multinutritional blocks for heifers before mating and in cows around parturition. Other feed supplementation strategies using urea treated straw, African palm oil and crop residues have also been tested. Technology transfer is disseminating the practical results of the research, and a considerable number of farmers, livestock breeding communities and farmers' associations have contacted the project team for technical assistance. This component will be the most important during the new phase of the project. The project team has also initiated the Internet's Informative Network of Sustainable Development, supported by the Consejo Nacional de Investigaciones Científicas y Tecnológicas (CONICIT) which can facilitate interaction between researchers, farmers' associations and livestock institutions. Project activities are conducted in a vast area of the States of Guárico and Apure and extend to Anzoátegui and Bolívar. Field activities will be carried out as part of the project. In research: evaluation and use of local feed resources; improvement of cattle productivity through the use of these resources and through changes in herd management practices; economic analysis of the technical interventions. In technology transfer: establishment of pilot farms and demonstration field areas; technology transfer through group activities; Internet interactions between scientists and end users of livestock technology; technical advice to farmers; disease control and prevention. Monitoring the social and productive structure of the rural community: determination of the family and community structure in rural areas; creation of farmers' groups for service and production activities; evaluation of human and animal sanitary conditions; dynamic diagnosis for the estimation of the use of local resources and possible ecological damage. Preliminary results of using cheaper diets based on local feedstuffs include higher growth rate, improved reproductive performance, and reduced mortality rate. The interval between the first and second calving has been shortened by more than 100 days in herds grazing on savannas and by more than 50 days in herds in hilly areas; the rate of first calving beef cows that have achieved the resumption of the ovarian activity within 200 days after calving was increased by >30%; the average conception rate of >50% per year has been improved by 10-20% within 150 days post-partum in hilly areas; the interval between calvings shortened by three months; and milk production increased by 10-20% in hilly areas. There has been a great improvement in body condition at calving and better maintenance in the post-partum period. Heifers calve younger, heavier and in better condition, which may ensure higher milk yields and more calvings during their reproductive life, aspects that are still under evaluation. Better use of land and pastures has allowed higher stocking rates: threefold on savannas and twofold in hilly areas. It is estimated that participating farmers have increased their income by about 40%.

PROJECT PLAN: The project involves three major areas: applied research to evaluate not-yet-used local resources for ruminant feeding, to improve the use of local feed resources through feed supplementation strategies in cattle, evaluating the benefits of such practices in productive and reproductive performance, and to measure the economic impact of the technical interventions; transfer of improved and "on-farm" validated technology using various mechanisms such as pilot farms, training courses, workshops, field days and the publication and distribution of booklets, manuals and other material; and monitoring the social and productive structure of the rural community through static and dynamic surveys, observations and interviews with farmers and local authorities. Project activities will be accomplished by 28 scientists from four Venezuelan institutions who will spend varying periods on the project (5-100%). Temporary staff will be mainly used for data collection, implementation of surveys and training courses. Some of the activities have already been initiated in one or two locations and the new project intends to enlarge the area of influence.

NATIONAL COMMITMENT: Temporary staff, vehicles, travel allowances, animals, tractors and field equipment, freezers, refrigerators, office furniture, maintenance of laboratory equipment, fences, seeds, feedstuff, minerals, fertilizers, reagents, multinutrient blocks and feed supplements, veterinary support, printing material, lecturers and instructors for training courses. The total contribution of the four Venezuelan institutions for 1999-2000 is approximately US $192,300, most of which will be used for visits to farms (fuel, travel expenses, vehicle maintenance and repair). The UCV and USR have budgeted a large amount for animal feed, fertilizers, insecticides, urea and minor equipment because of their leading role in research activities and the use of experimental farms. The contribution in salaries is estimated at US $101,808 per year.

AGENCY INPUT: Experts in research planning, ruminant feeding, animal reproduction, and economic analysis; equipment: crude fiber apparatus, micro-kjeldahl, distiller-deionizer, meteorological unit, oven, balance, cement mixer, portable generator, ruminal canulas and nylon bags, global positioning system (GPS) equipment, overhead projector, computer and printer, UPS, video camera, progesterone kits, vaccutainers and needles, reagents, sample vials, consumables, sodium azide; training in feed supplementation strategies, ruminant feeding, soil management system modeling, and reproductive management of the herd.

PROJECT IMPACT: In the near future: efficient use for cattle feeding of local low nutritional quality resources due to high fibre content; efficient management and better protection of forest areas in farms and production units; increased conception rate and shortened age at first calving. The substantial profits, for example, in the state of Guárico alone: an additional US $1,176,000 due to the increase in heifers; US $1,000,000 due to the increase in weaned calves; US $7,525,000 due to the increase in body weight of weaned calves; profits from increased milk production in 210,360 cows. Sustainability of the project will be assured through the continuing support of the four participating institutions, increasingly financed by end user farmers, and through a regional facility expected to be set up for the production of RIA kits.